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Reply to Office Action of December 1, 2003

Amendments to the Claims:

Please amend cancel claims 1, 3, 13 and 15-17 and amend claim 10 as follows. The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-9 (Cancelled).

Claim 10 (Currently Amended). An inverted microscope comprising:

5 an image output port that forms an image of an observation sample to an external surface of a microscope main body, an observer side and a front side of the microscope main body, and below a lens tube to which eyepieces are attached, wherein:

10 at least one of a photographing device, a TV camera and a digital camera device is selectively coupled/decoupled to the image output port;

the photographing device exposes and forms the image of the observation sample onto a film surface thereof;

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15 The TV camera photographs the image of the observation
sample by a photographing element thereof and outputs image
data thereof;

the digital camera device photographs the image of the
observation sample and records the image data as a still
image on a recording medium; and

20 at least a first camera and a second camera are
attachable to the microscope main body,
the photographing device comprising:

a light path switching mechanism that guides an image
formation light flux from the microscope main body to at
25 least one of the first camera and the second camera;

a photographing shutter arranged in a light path of the
image formation light flux in a light incoming side of the
light path switching mechanism; and

30 shutter mechanisms arranged in the light path toward
the first camera side split by the light path switching
mechanism, and blocking the light flux on the light path in
synchronization with the switching actions of the light path
switching mechanism, wherein the shutter mechanism
comprises:

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35 a light path switching lever which pulls and
inserts a throttle plate, which has an opening for passing the
image formation light flux toward the first camera, and moves to
a position to pass the image formation light flux or to a
position to block the image formation light flux, in
40 synchronization with the pulling and inserting operation of the
light path switching lever;

an openable and closable mechanical shutter main
body having a size sufficient to block the image formation light
flux through the opening, and
45 a link mechanism which moves the mechanical
shutter main body to the position to close the opening before the
throttle plate blocks the image formation light flux in
synchronization with the movement of the throttle plate.

Claims 11 (Cancelled).

Claim 12 (Previously Presented). The inverted microscope
according to claim 10, wherein, in a state where the
photographing shutter and the shutter mechanisms are closed, a
first space and a second space are formed, the first space
5 includes part of the light path of the image formation light flux

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toward the first camera, and is closed completely by the first camera and the shutter mechanisms, and

the second space includes the light path of the image formation light flux toward the light path switching mechanism
10 and the shutter mechanisms and is closed completely by the photographing shutter, the shutter mechanisms and the second camera.

Claim 13 (Cancelled).

Claim 14 (Previously Presented). The inverted microscope according to claim 10, wherein said light path switching mechanism comprises:

position detecting sensors that detect which of the first
5 camera or the second camera the image formation light flux from the microscope main body is guided; and

means for enabling an operation of the photographing shutter only when the position detecting sensors detect that the image formation light flux from the microscope main body is guided to
10 either the first camera or the second camera.

Claims 15-20 (Cancelled).

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Claim 21 (Withdrawn). An inverted microscope comprising:
an image forming optical system including objective lenses
arranged below an observation sample placed on a stage of a
microscope main body;

5 an optical element which forms an image of the observation
sample at the position where an image forming light flux obtained
by the image forming optical system is polarized to an observer
side from the optical axis of the objective lens;

photographing means for photographing an image of the
10 observation sample;

an image recording section configured to record image
signals photographed by the photographing means; and

display means attached to the surface facing to the observer
at the front of the microscope main body, for displaying images
15 photographed by the photographing means.

Claim 22 (Withdrawn). An inverted microscope according to
claim 21, wherein the display angle of the display means is
variable.

Claim 23 (Withdrawn). An inverted microscope according to
claim 21, further comprising:

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a light path splitting means for splitting the light path of
an image of an observation sample formed by the image forming

5 optical system;

a relay optical system for guiding to an eyepiece the light
flux from an observation sample of one light path split by the
light path splitting means; and

a photographing optical system set to a specified
10 contraction magnification for guiding to the photographing means
the light flux from an observation sample of the other light path
split by the light path splitting means.

Claim 24 (Withdrawn). An inverted microscope according to
claim 23, wherein the display angle of the display means is
variable.

Claim 25 (Withdrawn). An inverted microscope according to
claim 15, wherein said photo photographing device can attach at
least a first camera and a second camera to a microscope main
body, further comprising:

5 a light path switching mechanism that guides an image
forming light flux from the microscope main body to at least one
of the first camera and the second camera;

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a photographing shutter arranged in a light path of the
image forming light flux in the light incoming side than the
10 light path switching mechanism; and

shutter mechanisms that are arranged in the light path
toward the first camera side split by the light path switching
mechanism, and block the light path in synchronization with the
switching actions of the light path switching mechanism.

Claim 26 (Withdrawn). An inverted microscope according to
claim 25, wherein, in a state where the photographing shutter and
the shutter mechanisms are closed, a first space that includes
part of the light path of the image forming light flux toward the
5 first camera, and is closed completely by the first camera and
the shutter mechanisms, and a second space that includes the
light path of the image forming light flux toward the light path
switching mechanism and the shutter mechanisms, and is closed
completely by the photographing shutter and the shutter
10 mechanisms and the second camera are formed.

Claim 27 (Withdrawn). An inverted microscope according to
claim 25, wherein the shutter mechanism comprising:

a light path switching lever for pulling and inserting
operation;

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5 a throttle plate that has an opening for letting the image forming light flux toward the first camera go through, and moves to the position to let the image forming light flux go through the opening or to the position to block the image forming light flux, in synchronization with to the pulling and inserting
10 operation of the light path switching lever;

a mechanical shutter main body that is formed in a size at least enough to block the opening, and can open and close the opening; and

a link mechanism for moving the mechanical shutter main body
15 to the position to close the opening before the throttle plate blocks the image forming light flux in synchronization with the movement of the throttle plate.

Claim 28 (Withdrawn). An Inverted microscope according to claim 25, wherein said light path switching mechanism comprising:

position detecting sensors that detect to which of the first camera or the second camera the image forming light flux from the
5 microscope main body is guided; and

means that makes the photographing shutter available only when the position detecting sensors detect that the image forming light flux from the microscope main body is guided to either the first camera or the second camera.

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10 Claim 29 (Withdrawn). An inverted microscope according to
claim 21, wherein the contraction magnification of the
photographing system is so set that the magnification of the
image of the observation sample displayed by the display means
should be equal to the magnification of the image of the
15 observation sample observed by the eyepieces.

 Claim 30 (Withdrawn). An inverted microscope according to
claim 21, wherein when displaying the image photographed by the
photographing means by the display means, a signal processing
portion having an electronic zoom function for magnifying the
20 image by an optional magnification is arranged,

 and the contraction magnification of the photographing
optical system (β) is made so that the area of the image
photographed by the photographing means should be almost equal to
the area observed by the eyepieces ($\beta = K/FN$, when the width
25 across of the photographing element is set as K , and the number
of views of the eyepieces is set as FN), and the magnification of
the electronic zoom is made variable, thereby the magnification
of the image of the observation sample displayed by the display
means can be made equal to the magnification of the image of the
30 observation sample observed by the eyepieces.

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Claim 31 (Withdrawn). An inverted microscope according to claim 30, further comprising: means for storing plural magnifications of the image of the observation sample displayed by the display means changed by the electronic zoom function; and
35 means for setting the magnification of the image of the observation sample displayed by the display means to an optional magnification.

Claim 32 (Withdrawn). An inverted microscope according to claim 23, wherein the contraction magnification of the
40 photographing system is so set that the magnification of the image of the observation sample displayed by the display means should be equal to the magnification of the image of the observation sample observed by the eyepieces.

Claim 33 (Withdrawn). An inverted microscope according to claim 23, wherein when displaying the image photographed by the photographing means by the display means, a signal processing portion having an electronic zoom function for magnifying the
5 image by an optional magnification is arranged,

and the contraction magnification of the photographing optical system (B) is made so that the area of the image photographed by the photographing means should be almost equal to

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the area observed by the eyepieces ($\beta = K/FN$, when the width
10 across of the photographing element is set as K , and the number
of views of the eyepieces is set as FN), and the magnification of
the electronic zoom is made variable, thereby the magnification
of the image of the observation sample displayed by the display
means can be made equal to the magnification of the image of the
15 observation sample observed by the eyepieces.

Claim 34 (Withdrawn). An inverted microscope according to
claim 33, further comprising: means for storing plural
magnifications of the image of the observation sample displayed
by the display means changed by the electronic zoom function; and
5 means for setting the magnification of the image of the
observation sample displayed by the display means to an optional
magnification.